AMATEUR TELEVISION NETWORK
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June 7, 1994

To: Mr. Caton, Acting Secretary
Office of the Secretary, Federal
Communications Commission,
Washington, DC 20554

In the matter of

Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use	) ET Docket No. 94-32) Notice of Inquiry

Amateur Television Network would like to comment and reply to the eight questions contained within this inquiry. First I would like to give a brief description of our network. Our group currently has eight open Amateur Television Repeater (Relay) stations that are in use for emergency operation as well as for the enjoyment of the users. The repeaters use 434 MHz AM television inputs and our Santiago Peak Repeater also has 2441.5 MHz FM (terrestrial standards) television input. We plan to include this input to the rest of the repeaters should we be allowed to stay in the 2.4 GHz band. Our outputs are on the 1.2 GHz and .915 GHz band using VSB AM television to best utilize the available spectrum. We also use 2417.5 MHz FM as a video link channel on several of our repeaters, our longest link is 174 miles from Blue Ridge Mt. near Wrightwood Ca. to Mt. Potosi Nevada near Las Vegas.

a) The spectrum does have limited potential for promoting economic growth in three areas as follows:
1, The appliance industry has made millions of dollars manufacturing microwave ovens using spectrum in the ISM band around 2.45 GHz. Competition is strong among the manufacturers.
2, Part 15 devises many using spread spectrum and other high tech. modes are selling well in southern California. Many other manufactures have designs in for type acceptance or on the drawing board. Competition should be good as long as the band does not get spoiled as did the 900 MHz band use by part 90 devices.
3, As more amateurs are using the 2.3 to 2.4 GHz band, more jobs will be created to supply and manufacture equipment. I have seen four new manufactures start up with microwave equipment on the 2.4 GHz band within the last two years. The band is getting most of the new users from the Amateur Television and Amateur Satellite community. I do want to stress that this is new equipment sales, not converting old surplus part 94 microwave equipment. Existing commercial manufactures are benefiting from amateur radio sales such as Conifer Corporation (ITFS & Wireless manufacture) they are getting many orders for their dish antennas, down converters and bandpass filters for use by the Amateurs.

The most appropriate use of the band and services should be as follows:
1, Amateur Radio have first priority in the 2.3 to 2.4 GHz band to provide public service capability as well as a overflow military spectrum to be used during war time conditions.
2, continue to allow ISM operation in the 2402 to 2450 MHz area. All other users to accept any interference caused by ISM operation.
3, part 15 devises to have last priority in the band with the power kept limited to its current level as to minimize interference to amateur operations. Part 15, 1 watt spread spectrum links (dish antennas) must coordinate with the Amateur Radio local coordinator as to avoid interference to existing Amateur links while using 2402 to 2450 MHz.

b) 2390 to 2400 MHz should be used as additional down link from Amateur Satellite service as well as medium bandwidth links to pair with 2300 to 2310 MHz excluding 2303 to 2305 (weak signal window).

This should protect the adjacent spectrum concerns of the NTIA. Competition should grow as more amateurs buy equipment for the band. Some limited commercial use may be possible in a case by case bases. As an alternative Amateur Television links can use any 20 MHz wide channel (two minimum are required) of spectrum from 1300-2500 MHz.

c) No the FCC should limit the use to Amateur, part 15 and ISM services. 2400 to 2402 is not sufficient to protect against interference from high power commercial transmitters to Amateur Satellite reception due to the weak signals involved.

d) No, many populated areas of the country have established links of the FDM, Digital and Video messaging. With part 15 as well as ISM operations currently sharing the 2.4 to 2.45 GHz This is meeting the requirements of the reallocation for this band!

e) No, in the list of filed comments on the NTIA report #035 from Motorola INC. "believes that the existing and anticipated noise levels in the 2402-2417 MHz band from existing and planned ISM and commercial unlicensed Part 15 devices already using the band render this spectrum practically unusable in metropolitan areas for high quality, wide area land mobile communications services." GTE (# 037) also has concerns that the 2402-2417 MHz will be hampered by amateur, Part 15, and noise from ISM devices. Any new service in this band will create the same problems that plague the 902-928 MHz band , this will reduce if not eliminate many of the jobs created by the part 15 and amateur manufactures.

f) This is one of the best areas for the Amateur Radio community to help the Public Safety workers to communicate by use of the Amateur Television Repeaters during disasters. A helicopter can fly over an effected area and the command center personnel can see first hand the disaster damage and save several minutes of air time that would otherwise be needed to describe the disaster seen. Also linked voice and data repeaters can help relieve congestion in ordering medicine and other emergency supplies during disasters. Health and welfare messages can be relayed as was the case during the Northridge (LA) earthquake last winter using a 440 MHz voice repeater network linked on 2.3 and 2.4 GHz.

g) The 1390-1400 MHz paired with the 1427-1432 MHz band or a 1 MHz portion off of each band would work the best for this service to relieve biomedical telemetry especially in the larger metropolitan areas. The 2390 -2400 MHz does not provide adequate separation for duplex operation, 2402- 2417 MHz is unsafe due to part 15 devises and ISM noise. The 4660-4685 MHz band does not provide adequate separation for duplex operation as well as poor penetration of buildings for biomedical communication.

h) This may be a worthwhile decision so time can be spent to study the results of some of the reallocated spectrum.

Thank You for your time in consideration of our comments

Sincerely, Michael V. Collis

For the Amateur Television Network
Michael V. Collis